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TWO CASES OF DISEASE OF THE BRAIN.

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I.—ABSCESS OF THE CEREBRUM.

A GENTLEMAN, aged 26, a teacher by profession, on the 31st day of March, while engaged in his school duties, was taken with convulsions. During the previous winter months, he had complained of uncomfortable feelings in the head, and particularly of a sense of pressure, as though the brain were too large for the cranium. He had also been subject to what he called "bilious attacks," consisting principally of headache and vomiting, and preceded occasionally by a chill. For three or four years, he had suffered from inflammation, caused by a carious incisor tooth; suppuration frequently occurred, and there was a slight discharge, nearly all the time, through a fistulous passage from the root of the tooth. A noticeable swelling existed on the right side of the upper lip, occasioned by this inflammation. An abscess had recently formed in the usual place, and had been lanced.

On Sunday, March 29th, he was found lying on the floor, insensible. He soon recovered his consciousness, and supposed he had fainted. He remembered lying down on the sofa to take a nap, but had no recollection of anything farther.

On the morning of the 31st instant, while conducting the devotional exercises in his school, he experienced a strange sensation in his head; he was conscious of miscalling words without the ability of correcting himself; he partially lost the control of his hands and arms. He recovered sufficiently to go on with his recitations, until he was seized with convulsions, as already mentioned.

Consciousness soon returned, and he was carried home. During the day, he had two more fits. The convulsive movements began in the little finger of the left hand, then extended to the other fingers,

then to the arm, and finally to the muscles on the left side of the face. During the four following days, he had slight returns of the spasms, and there was a partial loss of motion of the left arm and left leg—the arm being more affected than the leg. In other respects he was comfortable; his appetite was good, and his mind was clear; he slept quietly, and confidently anticipated being able to go out in a few days.

On Sunday, the 5th of April, without any special premonitory symptoms, he had a severe fit, lasting several hours; the convulsions, as before, being confined to the left hand and arm, and the left side of the face. During this time, he was partially conscious, and seemed to suffer much from the spasmodic action. For several days there was a strong tendency to these convulsive movements, but this was controlled by chloroform. He had some nausea, which was, perhaps, owing to the chloroform. The pupils were not dilated, and there was but slight, if any, paralysis of the face. The tongue, when protruded, inclined to the left side. He shed tears, and seemed deeply affected, frequently and for slight causes; but his mental faculties continued clear, and he slept well.

On Friday, the 10th of April, he had a severe pain in the eyeballs. This passed off in the course of the day, and went to the head. The pain was excruciating, and recurred at intervals until he died, leaving him, for a part of the time, comparatively comfortable. He was comatose a few hours before his death, which occurred on the evening of the 13th of April, fourteen days from the date of the first convulsion.

The marked symptoms in this case were, 1st—convulsions, affecting chiefly the left arm and the left side of the face; 2d—paralysis, impairing the power of motion of the left arm and left leg, principally the former, and causing the tongue, when protruded, to incline to the left side; 3d—severe pain in the head and eyes, occurring at intervals, during the last four days of his illness.

Autopsy.—In the middle lobe of the right hemisphere of the brain was a well-defined abscess, about the size of an English walnut, filled with very fœtid pus. The upper part of the abscess was near the surface, and it descended into the interior of the brain—not, however, involving the ventricles. The parietes consisted of indurated cerebral substance of a dark color, but the cavity was not lined by a membrane. The brain in the vicinity of the abscess was softened; there was no serous effusion, and no other morbid appearance. The lungs were congested, and, on being cut, presented a very red appearance, owing, perhaps, to the chloroform which had been inhaled.

The treatment consisted of purgatives, leeches and cold applications to the head, counter-irritation to the back of the neck, low diet, and chloroform by inhalation, to control convulsions. On the fourth day, the carious tooth was extracted.

II.—Cyst embedded in the Cerebellum, with Effusion into the Lateral Ventricles.

The patient was a highly respectable physician of this city; he had been engaged for many years in the duties of his profession, and continued in practice until compelled to retire by the gradual inroads of a serious, and eventually fatal, disease.

It is not easy to say when this disease commenced, so slight and insidious were its first symptoms. Ten years before his death, he had intermittent neuralgia of the right side of the head, followed by deafness of the right ear. He took large doses of quinine for the relief of the neuralgia, and he attributed the loss of hearing to the effects of this medicine. Soon after, a slight loss of power over the muscles of the right leg was noticed; he was apt to trip in walking; his wife noticed, when she was walking on the right of him, that he leaned heavily against her; his friends perceived a failure in his mental faculties; there was a loss of memory; his judgment was not so good as formerly; it was a common remark that he was growing old very fast. Still he did not call himself sick, and kept about his business as usual.

Four years before his death, he began to have violent attacks of headache. These appeared to be of a neuralgic character, were unattended with heat of the head or flushing of the face, and at first occurred in the night, subsiding at daylight. These headaches continued at irregular intervals for two years or more, increasing in severity, and lasting from a few hours to two or three days.

Meanwhile the paralysis of the right side of the body increased. This paralysis was of a peculiar character. It seemed to be chiefly a want of power to harmonize the muscular movements. In a sitting posture the lower extremities could be freely moved; but any attempt at walking was a failure.

By degrees, the eye-sight became affected. At first, there was double vision, then a dimness of sight, and at last total blindness.

The mental faculties became more and more obtuse; he began to lose control over language; he would begin a sentence, but be unable to finish it. At times, he would become rigid, or slightly convulsed, and would lose, for a time, his consciousness. Sometimes he was irritable, but generally he was calm and hopeful.

The digestive organs remained in good condition. The chief trouble was costiveness; it required large doses of powerful cathartics to move the bowels.

His face was drawn, perceptibly, to the left side. His head was drawn to the right side. He had this inclination of the head to the right, more or less, all his life.

His situation during the last year of his life was wretched in the extreme. He had just consciousness enough to answer, by monosyllables, questions that were put to him. He lay in a somnolent, stupid condition, unable to move in bed, eating and drinking only when he was roused enough to open his mouth; this process had to

be repeated at every mouthful. He would apparently have lain and starved without expressing any sense of hunger. The urine and fæces passed involuntarily, the latter only after taking three or four drops of croton oil, and then waiting twenty-four hours. His pulse was feeble, varying in frequency from sixty to eighty beats in a minute. He was emaciated to the last degree, and had troublesome ulcerations over the lower part of the spine, and also on the glans penis. His eyes were insensible to light, but there was no marked dilatation or contraction of the pupils. The right eye, at times, was considerably inflamed. He seemed to have lost the sense of taste, and it made but little difference to him what was given him to eat or drink. He was a complete wreck of a man, bodily and mentally. He died easily, after lying insensible a few hours, at the age of 57.

Autopsy, made by Dr. Ellis. The lateral ventricles contained six ounces of clear serum; the septum lucidum was remarkably transparent.

Projecting somewhat from the base of the cerebellum, on the right side, was a yellowish "capsule," with some transparent cyst-like portions. This was two inches or more in diameter, and formed the lower wall of a large cyst, embedded from one half to three quarters of an inch in the substance of the cerebellum. It contained a brownish, gelatinous substance. The pons Varolii was atrophied, as from pressure by the morbid growth. The medulla oblongata below had also an atrophied look. The optic nerves appeared smaller than usual.

Some old tubercular disease was found at the apex of each lung. The other organs were healthy.

This case seems to confirm the opinion which attributes to the cerebellum "the power of associating or co-ordinating the different voluntary movements." The disease doubtless began in the cerebellum; the effusion into the ventricles occurring at a later period.

It is noticeable that the disease of the cerebellum, and the paralysis, were both on the same side.

CASES IN THE JUDICIARY SQUARE HOSPITAL, WASHINGTON,

UNDER THE CARE OF DAVID W. CHEEVER, M.D., OF BOSTON.

[Read before the Boston Society for Medical Observation, October 20th, 1862, and communicated for the Boston Medical and Surgical Journal.]

CASE I.—M. Spacht, 52d Penn., was wounded at the battle of Fair Oaks, May 31st, 1862. The ball entered from behind the mastoid process of the left temporal bone, passing inside the ramus of the lower jaw, though apparently injuring the articulation, and made its exit through the superior maxillary bone, just beneath the outer corner of the left eye. June 10th, ten days after the injury, he first came under my care. There was inability to open the mouth, except to

admit liquids; but no facial paralysis. There was scarcely any suppuration from the wound, but repeated small hæmorrhages, for some days past. His aspect was rather anæmic. He complained of nothing; was fed with broth and milk, and the wound dressed with a solution of persulphate of iron.

In the evening of June 13th, quite free bleeding came on, which was checked by pressure and styptics. The following morning hæmorrhage recurred profusely, pouring out from both the anterior and posterior wounds, displacing the tampons, and rendering the employment of some other means imperative. The *left* common carotid was tied, above the omo-hyoid. In the course of the day, bleeding to the extent of one or two ounces recurred from the gun-shot wound. Afterwards all hæmorrhage ceased; excepting that during the following week there were several small bleedings from the incision made to reach the artery, though not from the main vessel itself. The wound in the head remained rather dry, not suppurating freely. The aspect of the patient was chlorotic and feeble. He was treated with tonics, egg-nogg and beef-tea.

June 18th, or four days after the operation, he was found considerably paralyzed on the *right* side. The right leg nearly powerless—the right arm less so; articulation difficult; febrile, and low.

19th.—Urine involuntary; chills.

21st.—Slight bleeding from incision; paralysis constant, but not complete; aspect very chlorotic.

22d.—Slight hæmorrhage again.

23d.—Failing.

24th.—Died; three weeks after the injury, and eleven days after the ligature. The artery was found to be perfectly plugged with a white, fibrinous clot. It is probable that the patient had lost a very considerable amount of blood before he came under my notice, as evinced by his appearance; and it would seem to be questionable whether the paralysis which supervened on ligature of the carotid was not, in this case, partly owing to the anæmic condition of the brain, rendering it less able to bear the cutting off of one of its main sources of supply.

The bleeding from the gun-shot wound was probably from the internal maxillary artery, or one of its larger branches. It may be asked, then, why the external carotid was not tied in preference to the common, since the internal maxillary is one of the terminal branches of the external carotid. For two reasons. Because it was thought it would be a little more difficult to reach safely and quickly on account of its numerous branches—and the operation had to be done promptly; and also because it was feared that hæmorrhage might return from recurrent branches, as indeed it did, to a slight degree, even after the ligature of the common carotid.

Case II.—J. Campbell, 62d Penn., wounded before Richmond, July 1st, 1862. Entered the hospital, under my care, about one week after the battle. Ball entered at the outer condyle of the

right humerus, and passing inwards, made its exit on the inner side of the arm, near the bend of the elbow, in front. Shattered bone can be felt with a probe, yet the arm admits of very considerable motion, of flexion and extension, without severe pain or crepitus. In a day or two the slough began to separate, and suppuration to be established, with considerable constitutional disturbance. July 13th.—The joint and neighboring parts extensively swollen, red, tender and severely painful. Both wounds suppurating. The wound was explored under ether. The outer condyle and the head of the radius were found to be shattered, and the finger could be passed through the wound of exit, in front of the coronoid process of the ulna. Apparently the ginglymoid portion of the joint was untouched. It was noticed that no pulse could be felt in the radial artery at the wrist; yet, although a fortnight after the injury, the appearance, motion, sensation and temperature of the hand were as good as the other. If, then, the brachial artery had been cut off or plugged, it seemed probable that a sufficient collateral circulation had become established. It must be remarked, also, that the radial pulse of the other wrist was deep seated, and difficult to be felt, probably owing to some peculiarity of the artery, for the patient was robust and rosy, and bore no signs of loss of blood or debility. Since the suffering and general disturbance were very great, it was evident that something must be done to relieve the parts of the shattered bone, which nature could not promptly throw off. It certainly seemed too soon to resort to amputation; and as the articular surface of the elbow-joint was opened into by the injury of the external condyle and the head of the radius, the mischief was sure to extend into the rest of the articulation, if only the broken fragments were removed. Excision of the whole joint seemed therefore to promise most hopes of success, and it was done, on the following day, July 14th. The operation was done with an H-shaped incision. The articulation of the ulna with the humerus was found unbroken, but pus had already burrowed beneath the triceps, and denuded the humerus above the condyles. The injury to the radius, also, consisted not only in a shattering of the head, but a split extended down about an inch farther. The whole articular surface was removed. The humerus sawn half an inch above the condyles; the ulna, just below the sigmoid notch, and the radius, was necessarily removed below the tubercle of the biceps. The operation was well borne, and there was but little hæmorrhage. Sutures and adhesive straps were applied, save at the lower corner of the wound, which was left open for drainage, and the arm adjusted on an inside felt splint. Four grains of opium were given in the night.

July 15th and 16th, there was considerable swelling, but little pain.

17th.—Considerable discharge of dark, sanious pus. Constitutional state good.

19th.—Healthy suppuration was established.

20th.—The edges of the wound had separated and were being

absorbed, while profuse, florid granulations were appearing in great abundance. As they seemed disposed to bleed, they were dressed with a diluted tincture of myrrh.

Everything seemed to be going on finely, the hand and fore-arm appearing well. But on July 21st, one week after the excision, and three weeks after the injury, I was called to find him with a profuse secondary hæmorrhage issuing from the wound of exit, near the bend of the elbow, and coming, by its size and direction, from the wounded brachial artery. A tourniquet was applied. The amount of blood lost was very considerable; the patient considerably reduced. The pressure of the tourniquet produced great congestion and oozing from the granulations of the excision; and denuded bone could be felt above the end of the humerus. Under these circumstances there seemed to be but little chance of recuperative power enough being reserved to make a false joint at the elbow, and it appeared to the gentlemen with me and myself, that early amputation was the only resource. The patient was stimulated, and the arm amputated midway between the elbow and the shoulder. The pulse was very small during the operation, and but little ether could be borne. Stimulants were used very freely, and by evening he rallied. He recovered perfectly, with a good stump, in the ordinary time.

Case III.—C. Lawrence, 55th New York, wounded at battle of Malvern Hills, July 1st, 1862. Was struck by a ball, or a piece of shell, on the right side of the frontal bone, vertically over the right eye, and about an inch above the superciliary ridge. Now, July 10th, a ragged wound of the integuments, about one inch in extent, reveals portions of the frontal bone, visibly depressed, while the pulsation of the brain can be seen in the fissures of the fracture. No signs of compression. No paralysis. No fever. Pupils natural. Tongue, pulse and bowels well. Aspect fair. Right eye injected. Complains of nausea and constant headache. Although the prognosis of this case must depend much upon the nature of the missile, whether a ball which penetrated the brain, or a piece of shell which glanced off, and although the symptoms were not urgent, yet it seemed proper to remedy the very marked depression, under the fear that the spiculæ of the inner table might gradually irritate the dura mater into something worse than headache and nausea.

July 11th.—He was trephined, and two fragments, half an inch in diameter, and some splinters of depressed bone, removed. The dura mater had a thin clot of blood over part of its visible surface, and at one point a seeming depression, which it was feared might be the wound of a ball, although there was no appearance of wounded cerebral substance, or of pus. No farther exploration was made. The edges of the wound were brought partially together, cold water was applied, and a low diet ordered. There was much pain in the afternoon. Ice was applied.

July 12th.—Pain gone; feels comfortable.

13th.—Laudable pus in moderate amount. Edges of wound look well. No pain. No nausea. No fever.

15th.—Granulations begin to cover over dura mater. Less discharge. Complains of pain only when he moves the head suddenly.

He continued to improve, the wound slowly gaining. At the end of two and a half months from the injury the hole had nearly closed. Treatment consisted in cold applications, quiet, and a strictly vegetable diet.

CASE IV.—J. Jasper, 5th Mich., wounded at Fair Oaks, May 31. Admitted June 10th. Ball entered left arm, midway between elbow and shoulder, on outer edge of *biceps*, and passed inwards. No wound of exit. No ball can be felt by the tract of the wound, which is not very deep; nor are any evidences of it to be seen on inside of arm. Apparently a flesh wound, beginning to suppurate, and doing well. Patient is robust and comfortable. Wound being a little inflamed, it was poulticed.

June 11th.—Chills.

12th.—Arm much inflamed; phlegmonous redness, and hard swelling. Some fever. Low diet, and salts.

13th.—Much worse. Severe constitutional disturbance. Great pain. Fever, sweat and distress. Pulse small and rapid. Arm largely swollen, and of a brawny hardness, indurated from axilla to elbow. Several small black blebs near the edges of wound, slightly raised above skin, and containing a thin fluid. Ordered a lotion of lead and opium. Opium, quinine and brandy internally.

14th.—Worse.

15th.—Gangrene extending. Constitutional disturbance very great. To continue food and stimulants, and apply a yeast poultice.

16th.—No better. Gangrene extended two thirds around arm; line of demarcation beginning above. Add egg-nogg to treatment.

17th.—Tongue brown. Pulse small and frequent. Irritative fever severe. Gangrene extending around under side of arm. Increase stimuli.

18th.—The arm girdled by gangrene, and a line of demarcation set up in most of this extent. Disease extending below, towards forearm, which, with hand, is intensely inflamed. Constitutionally somewhat better.

The gangrene being limited above, and keeping up an exhaustive irritation below, and the general disturbance being less, it seemed that the moment for action had arrived. Amputation was the only resource; and that was felt to be doubtful, since the disease had extended so high as to preclude any other operation than a disarticulation. The patient was stimulated, etherized, and the arm removed at the shoulder-joint by a deltoid flap. Enough sound tissue was got to cover fairly, and that was all. No very large amount of blood was lost. Patient bore the operation well, and before being removed to bed, was given three grains of opium. A water-dressing

was applied, and stimulants, opiates and food given, as often as they could be borne.

June 19th.—Aspect tolerable. Feels more comfortable since the operation than before. Pulse very feeble. Stump looks well. Continue stimulants, &c.

20th.—Stump continues to look well. Thin and serous discharge. No hæmorrhage. Constitutionally failing. Nausea and diarrhœa.

21st.—Stump the same. Otherwise worse. Pulse very feeble. Hiccough. Delirium. Died at 6, P.M., three days after the operation, and three weeks after the injury. There was no extension of gangrene, and the patient died of *shock*.

It may be fairly questioned whether very free incisions should not have been made when the phlegmonous inflammation came on. One patient, in another ward, had apparently been treated so in a different hospital, but he had saved his limb, at the expense of a tibia denuded over eight inches, forming a large exfoliation, with subsequent slow granulation, which was far from covered when I last saw him. The case narrated does not seem wholly like hospital gangrene. The ward contained 40 cases of wounds, and it did not extend. Only one other instance of gangrene occurred in 400 cases, in two months.

Case V.—G. Cook, 63d Penn., wounded at Fair Oaks, May 31st. Ball entered just above right elbow, shattering humerus, and made its exit transversely on the inner side of the arm; by the size of the wound of exit, probably a Minié ball. Patient had refused to submit to amputation, which was advised, on the field. Subsequently, strenuous efforts had been made to save the arm. About three weeks and a half after the injury he came under my care. He was then suppurating enormously, but the pus was laudable. There were large masses of fungous granulations in both wounds. The arm was helpless, and no attempt at union seemed to have taken place. A number of large and small splinters had been removed, and spontaneously discharged. The patient was young and robust, but the general health was just beginning to suffer from hectic. The arm was not inflamed.

June 25th.—An exploration was made, under chloroform. The humerus was found to be badly fractured, with many spiculæ, and was besides split upwards fully three inches, so that the finger lay in the medullary cavity, and the two fragments pointed inwards and outwards, with sharp, jagged ends. These pieces were firm and immovable. Below, the fracture was sharp, the condyles roughened as by caries, and the inner one broken off; and, as afterwards appeared, the fracture extended into the elbow-joint.

As there was no prospect of reparation, and an excision must include all the parts from the upper third of the arm to the tubercle of the radius, it was decided, after a consultation, to amputate. The arm was removed, by the circular operation, about three inches below the shoulder, on June 28th.

June 29th.—Doing well.

30th.—Very comfortable. No hæmorrhage.

July 1st.—Slight chills, otherwise well. Ordered quinine.

2d.—Chills quite bad, three times to-day. Nausea and vomiting. Sweats. Aspect bad, but stump looks well. Beef-tea and stimulants moderately. ℞. Calomel, gr. ss., et opium, gr. ss., every hour until easy, and vomiting relieved.

3d.—Looks badly. Complexion a little jaundiced. Occasional chills. Tongue brown and dry. Skin moist. Pulse small. Respiration hurried. Stump continues to look well. Stimulants.

4th.—Increase of all bad symptoms. Quite yellow. Respiration impeded. Sinking. At 11, A.M., copious, but not very rapid hæmorrhage from stump. Died in an hour.

It is to be remarked that in malarious regions, and in this hospital, where fever and ague is of daily occurrence, it is difficult to distinguish, in the beginning, between the chills of intermittent and those of suppuration. This death was ascribed to pyæmia. The following is more marked in some respects.

Case VI.—J. English, 52d Penn., wounded at Fair Oaks, May 31st. Ball entered upper third of left thigh, near outer edge of rectus; ball still in.

June 10th.—Wound probed, but no ball could be found. Pretty comfortable. Water-dressing.

11th and 12th.—Pain and fever. Poultices, purgative, low diet, opium.

13th.—Wound suppurating. Feels better.

14th.—The same.

15th.—Much distress. Febrile. Thigh painful and very tender; not swollen or inflamed. No chills or sweats. Great jactitation. A little jaundiced. Drowsy. Ordered compound cathartic pill.

16th.—Thigh easier. Jaundice increased. Aspect much distressed. Pulse small and frequent. Wound the same.

17th.—Intense jaundice. Dyspnœa. Looks moribund. Wound unchanged. Died at 10, P.M.

At the autopsy it was found that the ball passed down below the ramus of the ischium, laying bare, but not fracturing the bone, and was lost in the soft parts. There was considerable disorganization, but no pus. The liver was intensely congested, but presented no other change. The gall-bladder and ducts were normal. Nothing else abnormal was found in the abdominal or thoracic cavities. No dépôts of pus. The head and the muscular structures were not examined. There was no swelling of the limb, like phlebitis, during the sickness, nor any marked difficulty of micturition. The bowels were sluggish, and attempts were made to move them and arouse the liver by mercurials and saline cathartics.

If this case was pyæmia, it was without marked chills or sweats. Such a form of pyæmia is described as coming on insidiously, accompanied by jaundice. This seems the more probable explanation, from several other cases of death of a low, asthenic form, with jaundice, occurring in the hospital, but not under my immediate care.

These cases were, some of them, complicated with secondary hæmorrhage, more or less grave.

Case VII.—J. McLaughlin, 1st Penn. On June 11th he was brought into my ward. He was deaf, stupid, with difficulty comprehending or answering questions, febrile, bleeding from the nose and throat, and with bloody stools. No history of the case. He was first given stimulants.

June 12th.—Bleeding continues; body and extremities sprinkled with blue, extravasated spots, like huckleberries. Ordered beef-tea, lemons, and Tr. ferri muriat., ʒ ss. every four hours.

June 13th.—Worse. Bleeding from ears. Spots of extravasation copious and increasing. The abdomen so closely covered that they resemble deep-blue striæ, in semi-parallel lines. Nose, mouth and tongue constantly bloody. A little diarrhœa, tinged always with blood. Pulse small, frequent and irritable. Very stupid and deaf. Aspect bad. No pain. No soreness. No complaint of anything. Continue good diet. Three to four lemons daily. Iron, ʒ ss., *every hour.*

June 14th.—A little better. Less bleeding. More sensible. Pulse 88. In the afternoon, copious hæmatemesis.

June 15th.—Looks very badly. Dull, deaf, and in a wandering delirium. No more bleeding. Continue iron, and add wine.

June 16th.—The same. Is so tired and disgusted with the Tr. ferri muriat., that the following is substituted. ℞. Ferri sulphat., ʒ iss.; acid sulphuric aromat., ℥ i.; aquæ, ℥ ii. M. Tea-spoonful every hour—equal to four grains of ferri sulph. The lemons were omitted, and the wine changed to egg nogg.

17th and 18th.—A little better.

19th.—Still better; medicine every two hours.

21st and 22d.—Improving. No bleeding for several days. Purpuric spots brighter, and less livid. More intelligent. Less deaf. Aspect better. Continue iron every two hours.

24th.—Much improved. Spots fading. Medicine every four hours.

July 1st.—Everyway much better. Spots about gone. Iron, three times a day.

27th.—Walking about, convalescent.

It is not, perhaps, probable that the immense quantities of iron (amounting to ℥ iss. of the tinct. ferri muriatis, or over ℈ iv. of the sulphate of iron, in twenty-four hours), given in this case, were all absorbed. They produced no effect, save that improvement steadily followed their administration. No irritation of pulse, head, stomach or bowels, followed these doses. When first seen, the case seemed pretty desperate, and the remedy was given in unusual amount, from a hope that it might benefit, and could do no harm. This was considered as a case of purpura hæmorrhagica, complicated, or not, with fever; and it is introduced here, among surgical cases, as typical of a certain hæmorrhagic tendency which seemed

to prevail in very many of the cases under my observation. A poor, thin, and probably scorbutic state of the blood was noticeable in the majority of wounded men. The aspect of some was chlorotic. Robust health, suddenly stricken down by a wound, was an exceptional appearance. A lingering form of sub-acute rheumatism was very common. Diarrhœa, or a tendency to it, easily induced by fresh meat and broths, was also prevalent. Suppuration was tardy and not vigorous. There was no strong reaction after injury. A full, bounding pulse was a rare complication. The aspect was that of fatigue. The spirits were cheerful, but that was partly owing to the unusual comforts of a hospital—a bed, clean linen, quiet, and regular food. Convalescence was slow and lingering—the patient not regaining a rosy color, or the look of firm health, as often here, as I have seen in northern and sea-side hospitals.

Secondary hæmorrhage was pretty frequent, and sometimes fatal. It rarely failed to recur, and carry off the patient, where it had been checked. All the cases of ligature of a great vessel to check hæmorrhage, died; of these, there were two of the subclavian, one carotid, and one axillary. Three out of the four showed a tendency to bleed from other parts than the original wound—as from small vessels, and, in one instance, from the bowels.

The tendency of the wounded to jaundice, and an obscure form of pyæmia, has been already spoken of. It was so frequent as to be very marked and noticeable. All the patients were liable to intermittent, and a considerable number suffered from it while in the hospital. This, of course, variously complicated their previous state. One case of bilious remittent occurred in a patient who had been in the hospital a month. He was wounded in the foot, and I had removed portions of the third, fourth and fifth metatarsal bones, three weeks after the injury, and he was going on well, when seized with the fever, which speedily proved fatal. Yet, with the exception of the tendency to diseases of a malarious origin, there was no epidemic in the Judiciary Hospital. There was no tetanus, and the pyæmia was sporadic. The gangrene did not extend, and there were very few cases of erysipelas. The number of patients averaged five hundred.

The construction of the hospital was good. It was of wood—one story high, and built in ten pavilions. The pavilions had an upper and a lower row of windows all round, opening into the ward: and thus a very admirable top-ventilation was secured. There was no ceiling, and each pavilion held from thirty to forty beds. As far as any hospital smell was concerned, the air of these wards was the purest of any I ever visited. The nursing was pretty good; the food, abundant in amount, and of excellent quality. The kitchen and the cooking were the weak spots of the establishment, and unavoidably so. Yet the sick did not want for luxuries; and by the commutation of their rations, a hospital fund, sometimes of one thousand dollars a month, was expended in extras for their comfort.

Five hundred loaves of soft bread, thirty dozen of eggs, a keg of butter, and many gallons of milk, were daily consumed. Government furnished medicines and stimulants without stint; and the Sanitary Commission made up many lesser deficiencies.

Obviously, therefore, the bad sanitary state of the patients, their tendency to various morbid complications, indicating debility and impure and feeble blood, could not depend on the surroundings of their hospital life. The cause is to be found in their mode of living and enduring in camp, and on the march. All the cases here alluded to came from the Peninsula, after the siege of Yorktown, and the sojourn in the pestilent swamps of the Chickahominy. Climate, fatigue, exposure, want of sleep, and, above all, too little and poorly prepared food, and food of a bad quality, with no margin of extras to revive the appetite or enrich the blood—all this supervening on habits of ease and plenty, and continuing to act on yielding constitutions for months, had gradually undermined the strength, and led to that state of prostration described above. Such a condition of things is perhaps inseparable from war. Those interested may find descriptions of an exactly similar state of health, and its constitutional sequences under injury and wounds, in Hennen and Guthrie, and in McLeod's details of the hardships of the Crimean campaign. All military writers are unanimous in like descriptions. It is not surprising, among such cases, that the mortality should be large. The operations done at this hospital were necessarily all secondary; of these, about 50 per cent. died. All the cases of excision of joints, which fell under my observation, were fatal. Excisions of ends of bones, not involving an articulation, were more successful.

Although it is often said that limbs are needlessly sacrificed to the knife on the field, it has seemed to me that there was another large class of cases where life was ultimately lost through too great conservatism. When we consider the many perils to which the long recovery from a shattered limb, or an excision, exposes the private soldier, of bad transportation, hospital diseases and malaria—when he cannot be sent home—and all these supervening on a feeble state of the blood, such as has been described, we may well hesitate to submit him to such risks, which an amputation will, to a considerable extent, do away with.

There are only two other points which demand a brief allusion.

Mercury seems to exercise a very good effect on some ill-conditioned wounds in this latitude, and also to be required in those cases tending to congestion of the portal circle and jaundice, which were frequent in this hospital; and, in short, to be really more useful and more needed than we think it in Boston.

Chloroform and ether were both furnished by government, and were used indiscriminately. In some fifteen or twenty cases of the administration of chloroform, not the slightest ill effects resulted.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, OCTOBER 30, 1862.

INSPECTION OF THE U. S. MILITARY HOSPITALS BY THE SANITARY COMMISSION.—This inspection, by a body of physicians and surgeons from civil life, to be kept up, week after week, until May next, meets with general approval in the community. No measure could have been advised better calculated to quiet the public mind on the all-important subject of the care of those dear to them, whose patriotism has made them the victims of the casualties or the diseases which this wretched war has brought upon them. There have been so many stories of mismanagement, neglect and cruelty in the newspapers, that it was high time these evils were corrected, if they really existed, or that the popular mind should be authoritatively disabused of false impressions which were causing an untold amount of wretchedness to sympathizing hearts at home. We have been strongly inclined to the opinion that much has been said in newspaper articles on this subject, which, sifted down, would prove to be the grossest exaggeration. The proposed inspection will clear up all uncertainty about it. And we hail as strong presumptive evidence that there has been a great over-statement, to say the least, of any defects of hospital administration, the fact, which we learn on the best authority, that the gentlemen in charge of government hospitals receive with the most cordial courtesy the visitors of the Commission, showing the greatest alacrity to facilitate their examination, and manifesting a desire in every way to carry out the plan proposed. This is a good augury that such evils as may exist are not at any rate those of wilful neglect and cruelty.

The inspectors, in making their visits, are furnished by the Surgeon-General of the United States Army with a document enjoining upon all medical officers to give them free admission into all hospitals, and to render them every practicable facility and assistance in the pursuit of their investigations. That the examination they are expected to make is of the most thorough and searching character, may be learned from the details in the following extract from the paper which will be placed in the hands of each inspector on commencing his tour of duty, which has been kindly furnished us by Dr. Clark, Inspector-in-Chief.

In the performance of your duty it is the desire of the Commission that you should cause as little inconvenience as possible to the medical officers of the hospitals you may visit, extending to them the deference and courtesy proper to their responsible positions; and the Commission is confident that, as members of the same profession, with the same high objects in view, you will be welcomed by them with equal courtesy, and every facility afforded you of obtaining the information you seek. It is proper to state to you that your visit is made by invitation of the proper authorities, and at the express desire of the Surgeon-General of the Army, to whom a digest of your report will be presented. If you should encounter any serious obstruction in the performance of your duty, please report the facts fully and promptly to Mr. Olmsted, at Washington, and proceed without delay to the next hospital in your circuit.

It is desired that your report should embrace your observations on the points, and answers to the questions which follow—stated under the same heads, and, as nearly as possible, in the same order:—

Locality of the hospital; character of its site in regard to healthfulness; cha-

racter of soil; prevailing winds; proximity of other buildings—of railroads—of navigable river; elevation; style of building.

Surgeon in charge; name; rank.

Number of assistant medical officers; if employed by contract by Government; if so, if subjected to examination before employment, and by whom.

Number of hospital stewards, ward-masters, male and female nurses; estimate of character and efficiency.

Number of patients in hospital; examine "Morning Report," and judge if books are carefully and accurately kept.

General character and degree of gravity of cases before treatment; proportion of medical and surgical cases; proportion of convalescents; are they promptly returned to duty, or discharged the service?

Estimate the degree of medical and surgical skill of medical officers, and the humanity and kindness evinced by them, and also by the nurses.

At what hours are the regular visits made to the sick, and by what officers of the hospital?

How often does the surgeon in charge visit the wards?

Rate of mortality; success of surgical operations; is there a dead-house? Are *post-mortem* examinations practised? Are pathological specimens preserved? Are burials conducted with propriety? Are means taken to mark graves, so that they can be recognized by friends? Are chaplains, or proper religious advisers, at all times accessible to the sick?

Diet: is it sufficient in quantity, and good in quality? suited to conditions of patients? well cooked? served warm? sufficiently varied? Are the coffee and tea good? How often do the patients get fresh beef? Is the beef-tea properly made and freely provided?

Is the hospital fund sufficient to secure an ample supply of milk, butter, eggs, chickens, ale, porter, and other delicacies and necessaries for the sick not included in the supply tables of the commissary and hospital departments?

[Government regulations allow the very ample ration issued by the commissary department to be drawn at its commuted value in money, by the surgeon in charge of a hospital, for the sick soldiers under his care, and this constitutes the hospital fund, with which all extra necessaries for the sick are to be purchased under his direction. The amount of this fund, with proper management, is amply sufficient for the purpose for which it is designed. See Revised Army Regulations for Medical Department.]

Is the hospital fund allowed to accumulate while the sick are in want of anything?

Are the stimulants employed of good quality and judiciously administered?

Police: Is strict cleanliness observed in the wards—in their floors; in bedsteads and bedding; in clothing, in vessels used for food; spittoons; bed-pans; sinks, and water-closets? In the kitchen and cooking utensils? In the apothecary shop?

Are the knapsacks and property of the soldiers properly cared for by the ward-masters?

Is the water supply ample? for washing, bathing, water-closets, and in case of fire? Is its quality good?

Are the provisions against fire complete? Are there fire-escapes by means of windows in each ward cut down to the floor, or other sufficient means of egress?

[Many hospitals, being frame buildings, are particularly liable to the danger of fire, and the helplessness of the sick renders it especially necessary that ample provision should be made in every possible way, by fire engines, drilling the attendants, supply of buckets, care in use of lights and fires, ether, alcohol, camphene, kerosene, &c. &c., to secure their safety.]

What means are employed for lighting and heating the wards?

Is the drainage completely provided for? Where tents are occupied by the sick, are they provided with floors with a free circulation of air beneath them, and with provision against collection of rubbish? Are they secure against rain, and are trenches dug when necessary to carry it off?

Are the grounds around the hospital buildings and tents kept clean?

Is the supply of fresh air ample, with all possible provision for ventilation?

What is the average air-space allowed for each patient?

[This includes the all-important question of crowding the sick—a most common and fatal error. It is well to bear in mind that every sick man has a right to 1200 cubic feet of air as a minimum estimate. By multiplying the length, breadth and height of each ward, and dividing by the number of beds it contains, the answer to the question is obtained.]

Have continued fever or dysentery assumed a contagious character?

Have erysipelas, hospital gangrene, or pyæmia prevailed?

In such event, have the patients been promptly scattered?

Are deodorizing agents judiciously employed?

[In the absence of chlorides of lime and soda, and the more common disinfectants, gypsum or plaster of Paris, sulphate of iron and coal-tar answer this purpose admirably.]

Are screens provided for isolating dying patients?

Is the supply of laundresses and means of washing clothing and bedding sufficient?

Is there a sufficient supply of mattrasses, bed-sacks, straw, blankets, sheets, and mosquito-bars?

Is the straw used for bedding changed and burned at proper intervals?

Is there a sufficient provision of clothing, shirts, drawers, socks and slippers for the patients?

[By recent law of Congress, enforced by the Secretary of War upon the Quartermaster's Department, soldiers who have lost their clothing through the casualties of war, are entitled to an additional issue, without deduction from their pay. By another appropriation by Congress, provision has been made for obtaining, through the medical purveyors, clothing for the sick in hospitals. When from unavoidable deficiency said clothing for the sick cannot be obtained through the proper channels, the Sanitary Commission will afford the necessary supply.]

Are invalided soldiers, discharged on certificates of disability, supplied with full information as to their rights under the pension law? and of the provision made by Government for furnishing those who are mutilated with artificial limbs?

Are patients kept closely cropped, and proper precautions taken against vermin?

Is there any lack of reading matter for convalescents? of games? of tobacco?

—

In addition to the foregoing, you are invited to furnish any further suggestions or details you may deem worthy of record.

In any case of doubt as to the nature of your duty, you will please apply to the General Secretary, at the Central Office, Washington, D. C.

It is desirable that you should render yourself familiar with the Revised Army Regulations, as far as they concern the Medical Department, and also with all circulars and orders emanating from the Surgeon-General's office.

By order of the Executive Committee,

W. H. Van Buren, M.D.
C. R. Agnew, M.D.
Wolcott Gibbs, M.D.

Examination of Recruits.—The importance of a rigid examination of recruits cannot be too much enforced. It has been often insisted on by military and medical authorities, since the commencement of the rebellion, but the lesson needs to be inculcated over and over again, to make the impression it should on those to whom the responsible duty of examination is confided. Without doubt, this has been much more thorough of late, in raising the troops of the new levy, than heretofore, but still there is room for improvement. The large bounties offered are a strong temptation to men with some physical infirmity to conceal it for the purpose of securing the prize. It matters little to such a man whether the regimental surgeon subsequently discovers the defect, and dismisses him from the service; this is just what he wants, in most instances, and gives him the opportunity for getting another bounty somewhere else. In fact, there is, undoubtedly, a set of sharpers, who are making goodly sums by this game, and it is im-

portant examining surgeons should be on the look-out for them; the examination cannot be too rigid and careful. Instances of carelessness or unfaithfulness in the performance of this duty should deprive the examiner at once of his office, for it seems too much like collusion between the parties to be tolerated for a moment. Nor is this a merely hypothetical case. Two instances have lately come under our observation, where men were passed as sound by an examining surgeon, and permitted to enlist, when they had been repeatedly rejected by other more exact or scrupulous examiners. In one of these cases the man had but one eye, the other being hopelessly blind from closure of the pupil with adhesion to the cornea and large opacity of the latter. This man was at once rejected by the examining surgeon to whom he applied, although a strong pressure was brought to bear upon him by a circle of friends who proposed to enlist with him, and whose enlistment was conditional upon his. Finding his efforts ineffectual, he departed to try some other examiner. The second instance was of a man who had the most defective set of teeth conceivable in a person of middle age. His mouth was shaded by a heavy beard which concealed the ruin within. Of his upper incisors, all that remained was the left perpendicular half of one of them, the rest being broken off even with the gum. Four discolored and fragmentary stumps, irregularly distributed, were all that remained in the upper jaw; and half a dozen below, in as bad a condition as possible, and distributed as unevenly as those in the upper jaw, made up the sum of the masticatory apparatus of this individual, whose army fare would be hard tack and tough corned beef. Of course it was out of the question to pass such a man, and he submitted to his fate without a murmur, admitting that this was not the first rebuff of the kind that he had met with. The conclusion of the history is, that both of these men were in the ranks of the company which they originally attempted to enter, when it left the city, having passed successfully an examination by another surgeon. Each of them probably received his bounty of two hundred dollars; and one of the first acts of the regimental surgeon, when he shall have been appointed, will undoubtedly be to discharge them both as unfit. The bounty will comfort them in their disappointment, and they will be free to try the same game again, elsewhere. Such facts need no comment. Again we say examiners should be unscrupulously rigid: in no other way can such frauds be prevented.

The Medical and Surgical Reporter.—We miss, of late, the former regular visits of our Philadelphia contemporary. The numbers at times come to hand more than a month behind their date, and we find several numbers wanting to complete the series up to the date of the last one received. The diminution in the number of subscribers, which publishers of medical journals have experienced, more perhaps than those of any other periodicals, in consequence of the war, is given as an excuse for this irregularity on the part of the *Reporter*, and is also the cause, doubtless, of a reduction in the number of pages in its weekly issues. We of the medical press are indeed severely tried by the condition of the country, and nothing but prompt remittances on the part of subscribers allows any medical periodical to be published without other support than its own income.

THREE cases of acute pulmonary disease in children, treated by Dr. HANDFIELD JONES with tincture of veratrum viride, are reported in the London *Lancet*. Dr. Jones made the following clinical remarks :—

"The foregoing cases certainly corroborate the very favorable testimony of our American brethren as to the virtues of veratrum viride. I think it is well worthy of more extensive trial by the profession, and I am much inclined to hope that it will prove a substantial addition to our means of controlling inflammatory disease. As far as I can judge, it would have gone very hard with both cases (I. and II.), but for the veratrum viride. Case I. would, I believe, have died; and Case II. would at best have had a slow convalescence. This case was the first one in which I tried the drug, and I was quite prepared to find at the next visit a considerable extent of both lungs hepatized, which with any other remedy I verily believe would have happened. Certainly veratrum viride is no placebo, and will only find favor with the partizans of active interference. Those who have witnessed its action will, I think, find it hard to believe that acute disease is never curable by depressing measures, or that expectant practice is always advisable. It is evidently a remedy very much of the same kind as digitalis, which has been employed on the continent lately in the same way, and apparently with very good results. (*Vide* Hirtz's paper in the *Bull. de Thérap.*, February and March, 1862.) The *modus operandi* of both is clearly to depress the circulation, which digitalis at any rate seems to do by hyper-stimulation of the vaso-motor nerves. The cold face and hands and slow pulse of patients under its full action, are just such phenomena as result from stimulation of the vagi and sympathetic nerves."

CHRONIC DIARRHŒA AT CAMP DOUGLASS.—A correspondent of the *Chicago Medical Journal*, who has had charge of the Confederate prisoners at Camp Douglass, near Chicago, thus writes respecting the prevalence of chronic diarrhœa among them :—

"One of the first questions asked a patient, 'How long have you been sick?' generally gives the answer, 'ever since I was taken prisoner.' 'What is the matter?' 'Diarrhœa.' There is nothing which so effectually takes the self-satisfaction out of a physician as treating chronic diarrhœa. Add to its usual obstinacy the necessary lack of suitable food, and the stolid indifference of men accustomed to sufferings, and our diarrhœas become the rightful recipients of their usual appellation—the camp curse. The prevalence of diarrhœas among the rebel prisoners is absolutely astonishing. In one of my wards, I one day found that nineteen out of twenty then in the ward had diarrhœa. I have never tested it before or since, but presume it would vary but little among the sick in the hospitals. As to its treatment, my own experience gives me little to offer in the chronic cases, while the acute ones yield readily to opiates combined with astringents. Occasionally I have used mercurials with very marked good effect, and also in others quinine has been productive of excellent results. I have used the following in some of my cases with much satisfaction :—R. Pulv. opii, ℈i.; pulv. alum., ʒij. M. Make twenty powders; give one every two or four hours until bowels check.

"In the chronic cases, there seemed but little encouragement to close the portals of their exit. No wonder surgeons kept from active field service, clamor to quit the business, for I think if anything could

effectually dry up the last spark of a man's ambition, hope and resolution, it would be to dole out daily remedies for chronic diarrhœa. The incessant 'no better' sounds mockery to your science. The long list of specifics fade out quietly before your trials, but like few reliable institutions, they still run themselves. I have tried nothing that I could add to, or place in the specific column. I think if I ventured to believe anything had done any good, it was the formula given above. In some cases, I combined tincture of cantharides with my ordinary diarrhœa formula, and it seemed to do good for a while, but soon fell into the useless brigade. I used iron to no purpose.

"The degree of emaciation is incredible. In many it would seem to be no difficult matter to teach osteology, and they turn the skeleton for you.

"In most of the cases, towards their termination, ulceration of the lower section of the cornea takes place, and it has always in this, as well as other diseases, preluded a fatal termination. It seems to be the point in the nutrient barometer, to which, if nature sink, there is no remedy.

"These cases, notwithstanding the irritability of the bowels, must not be deprived of a liberal supply of hearty food. In many cases, articles which would seem entirely inconsistent with the disease, were tolerated with wonderful comfort—such as meats, pickles, vegetables, &c. The denial of a substantial and free supply of food, I am confident, is injurious in the confirmed cases. Many cases were examined *post mortem* without eliciting any peculiarity upon which a basis of treatment could be founded."

Dentists at Rio Janeiro.—Dr. Joseph F. Vegas writes to the Philadelphia *Dental Cosmos* as follows, under date of June 25, 1862 :—

"The number of dentists in Rio is about twenty, and most of them are graduates of medicine. American dentists are considered the best, and there are three or four Americans doing very well. One of them in particular, Dr. Van Tuyl, who has been established in Rio for about fifteen years, enjoys quite a reputation, and has a large practice.

"Dr. Fogg is also doing well; he is the successor of Dr. Whittlemire, one of the best dentists that ever came to Brazil.

"I called upon several of them, and was kindly received by all—to Dr. Van Tuyl, particularly, I am highly indebted for many attentions during my sojourn in the city of Rio.

"The medical college of Rio has, within the last few years, made arrangements to instruct and graduate dentists, but in a very imperfect manner. Dr. Diniz was the first graduate, in 1859, and since then they have graduated three or four every year, who could hardly have been prepared to enter into the practice of dentistry with the scanty instruction received at that institution, where none of the professors are dentists. There are, consequently, no clinics, and as to mechanical dentistry, not a word is taught."

Artificial Limbs for Soldiers.—The Commission appointed by the Surgeon-General to devise a method of expending the fund appropriated by Congress for the purchase of wooden limbs for soldiers, recently held a meeting in this city. It consisted of the following eminent surgeons: Drs. Van Buren, Gross, J. M. Warren, and Satterlee. After examining the subject, they resolved to allow the patient fifty dollars

for a lower, and twenty-five dollars for an upper extremity. The following artificial limb manufacturers were selected to supply limbs, viz., Dr. E. D. Hudson, New York, Dr. Douglas Bly and Mr. Selpho, New York, Mr. Douglass, Springfield, Mass., and Mr. Palmer, Philadelphia. The patient is at liberty to apply to either of these manufacturers, but if the price which they demand for a given limb exceeds the amount allowed, the patient, or his friends, must make up the deficiency. This arrangement is very judicious, and will lead to a proper use of the fund. Every maimed soldier will be able to obtain an artificial limb of such quality as he chooses.—*American Med. Times.*

Lectures at the Massachusetts Medical College.—The attention of readers is called to the advertisement respecting the Introductory Lecture by Prof. Bigelow at the College on Wednesday next. The winter course, then to be commenced, promises to be in every respect equal to those of former years, and is worthy the attention of students in all parts of the country. The numbers in attendance at other schools which have opened this season are said to be large, and we anticipate an increased number at the lectures in this city.

Dr. P. A. O'Connell, Surgeon of the 28th Massachusetts Regiment, has been appointed by General Willcox Medical Director of the Army Corps under his command. Dr. O'Connell writes that he will be able to enforce General McClellan's order relative to the Ambulance Corps in his Division of the Army, as he will receive from General Willcox any assistance he may require.

We have received from Dr. George H. Gay, chairman of the delegation of surgeons and physicians who went to Washington on the memorable Sunday, August 31st, in answer to a call from the Secretary of War, his interesting report to the Surgeon-General of Massachusetts, just published. Want of space compels us to defer a full notice of it until next week.

VITAL STATISTICS OF BOSTON.

For the Week ending Saturday, October 25th, 1862.

DEATHS.

	Males.	*Females*	*Total.*
Deaths during the week,	40	27	67
Average Mortality of the corresponding weeks of the ten years, 1851-1861,	33.3	32.9	66.2
Average corrected to increased population,	..	..	72.99
Deaths of persons above 90,	..	0	0

Mortality from Prevailing Diseases.

Phthisis.	Chol. Inf.	Croup.	Scar. Fev.	Pneumonia.	Variola.	Dysentery.	Typ. Fev.	Diphtheria.
15	2	3	2	1	0	1	3	2

Died,—In New Orleans, Sept. 22d, of apoplexy, Dr. Edward Jenner Coxe, in the 60th year of his age, Dr. C. was the son of Dr. John Redman Coxe, formerly a professor in the University of Pennsylvania, and now living—the oldest alumnus of the medical department of that school. The son has been a resident in New Orleans for the last twenty-five years, and during much of that time was well known to the readers of this Journal as a frequent contributor to its pages.—Killed, in a skirmish near Ashby's Gap, Va., on the 24th ult., Dr. S. R. Perkins, late of Castleton, Vt., and at the time of his death Captain of a company in the Vermont Cavalry Regiment.

Deaths in Boston for the week ending Saturday noon, October 25th, 67. Males, 40—Females, 27. Accident, 2—apoplexy, 2—inflammation of the bowels, 1—disease of the brain, 2—bronchitis, 1—cancer, 1—cholera infantum, 2—consumption, 15—convulsions, 1—croup, 3—diarrhœa, 2—diphtheria, 2—dropsy, 3—dropsy of the brain, 1—dysentery, 1—scarlet fever, 2—typhoid fever, 3—gangrene, 2—disease of the heart, 3—hernia, 1—intemperance, 1—inflammation of the lungs, 1—marasmus, 1—old age, 1—paralysis, 2—premature birth, 3—syphilis, 2—teething, 1—unknown, 5.

Under 5 years of age, 19—between 5 and 20 years, 6—between 20 and 40 years, 25—between 40 and 60 years, 12—above 60 years, 5. Born in the United States, 41—Ireland, 18—other places, 8.